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A025 Limestone Salamander Hydromantes brunus
Family: Plethodontidae Order: Caudata Class: Amphibia

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The limestone salamander is a highly restricted species known primarily from the mixed chaparral habitats along the Merced River and its tributaries in Mariposa Co. at 255-800 m (836-2624 ft) elevation. It is sometimes associated with limestone outcrops. During periods of surface activity, early November to the end of March (Tordoff 1980), this species is uncommon tocommon under surface objects on steep north and east-facing slopes. California buckeye may serve as an indicator species for optimal habitat.

SPECIFIC HABITAT REQUIREMENTS

Feeding: No data on food habits but probably forages on insects and other small invertebrates.

Cover: During the period of surface activity, cover is provided by logs, rocks, and occasionally other surface objects, under which salamanders take refuge. For populations associated with limestone outcrops, rock or rock microhabitats appear to be preferred. Individuals may seek refuge in limestone caverns, deep talus formations, or fissures in massive rock areas during the rest of the year.

Reproduction: Little is known about habitat requirements for breeding and egg laying in this species. A related salamander (H. shastae) apparently breeds, and is known to lay eggs, in limestone caverns (Gorman 1956).

Water: No data on water needs, which are probably met during the period of surface activity by fall, winter, and spring rains. During the remainder of the year water requirements are probably met by subterranean sources.

Pattern: Mainly in mixed chaparral habitats during moist periods. In limestone caverns, deep talus formations, massive rock fissures during the remainder of the year.

SPECIES LIFE HISTORY

Activity Patterns: Nocturnal activity during rains of fall, winter, and spring.

Seasonal Movements/Migration: Occupies surface microhabitats from the first rains of fall through winter and spring rains. Activity mostly subterranean during dry periods.

Home Range: Not known to move more than 100 m (330 ft).

Territory: No data, but females of H. shastae appear to stay with eggs (Gorman 1956) and

may defend egg clusters prior to hatching.

Reproduction: Little information. Large females with unembryonated eggs (3-5 mm/ 0.12-0.20 in) have been found under surface objects in February and March. A male in breeding condition (enlarged chin gland, swollen vent) was found under a large rock in late November. Clutch sizes are suspected to range from 5 to 14.

Niche: Because of their secretive activity, adults are probably rarely taken as food items by other animals. Eggs may be protected by the females. Competition with arboreal salamanders may occur where their ranges overlap.

General Comments: This species is considered vulnerable because of its highly restricted range. Any human activities, such as mining or road construction in the vicinity of existing populations, may affect a significant portion of the population. Walter Tordoff, CSU Stanislaus, is a noted expert on the limestone salamander.

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